

# Procurement of Energy Efficient Products

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy



- FEMP-designated
- ENERGY STAR
- Standby Power



# Benefits of Energy Efficient Products

- Help meet Federal energy reduction goals
- Stimulate the economy
- Reduce operating costs
- Reduce building energy use
- Reduce greenhouse gas emissions
- Foster energy independence
- Reduce fossil fuel use
- Can shift the market towards greater production of energy-efficient products improving availability and reducing consumer cost
- Set a clear standard for energy performance
- use 25% - 50% less energy than traditional counterparts

# Impact of these Benefits on the Federal Government

- The Federal government alone owns and operates nearly 500,000 buildings.
- The Federal government spent \$24.5 billion on energy costs in fiscal 2008. Of that sum, \$7 billion was spent to power Federal buildings.
- The Federal government spends \$500 billion annually on goods and services.



- Energy Independence and Security Act of 2007
- Energy Policy Act of 2005
- Executive Order 13514  
Federal Leadership in Environmental, Energy, and Economic Performance
- Executive Order 13423  
Strengthening Federal Environmental, Energy, and Transportation Management
- Executive Order 13221  
Energy-efficient Standby Power Devices
- Federal Acquisition Regulation (FAR)

# Energy Independence and Security Act of 2007

- Designed to increase energy efficiency and the availability of renewable energy--
- New energy efficiency equipment standards set by law: includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, commercial walk-in coolers and freezers, furnace fans, and battery chargers among others.
- Agencies are directed to purchase products that limit standby power use.
- DOE shall provide list of eligible products.



Agencies shall:

- Buy only ENERGY STAR qualified and FEMP-designated products
- Incorporate ENERGY STAR and FEMP performance criteria into project specifications, guide specifications, and construction, renovation, and services contracts that include provision of energy-consuming products and systems.





Ensure that 95% of all new contracts and contract modifications for products and services are:

- Energy-efficient
- Water-efficient
- Biobased
- Environmentally preferable
- Non-ozone depleting
- Contain recycled content
- Non-toxic or less toxic alternatives





Includes procurement practices that incorporate sustainable environmental practices:

- energy-efficiency
- environmentally preferable
- biobased
- water-efficient
- recycled content



- Agencies shall purchase ENERGY STAR qualified or FEMP-designated products



- **FAR 7.103(n)(2) Acquisition Plans**

- Comply with the policies regarding procurement of biobased products, products containing recovered materials, and environmentally preferable and energy-efficient products and services.



## Describing Agency Needs

- **FAR 11.002(d)(1)** Policy
- When agencies acquire products and services, various statutes and executive orders require consideration of:
  - Energy-efficient products and services
  - Products and services that utilize renewable energy technologies
  - Products containing energy-efficient standby power devices
  - Products containing recovered materials
  - Biobased products
  - Environmentally preferable products and services



## Energy and Water Efficiency and Renewable Energy

- **FAR 23.202** Policy The Government's policy is to acquire supplies and services that promote energy and water efficiency, advance the use of renewable energy products, and help foster markets for emerging technologies. This policy extends to all acquisitions, including those below the simplified acquisition threshold.



- FAR 23.203 Energy-efficient products
- (1) When acquiring energy-consuming products listed in the ENERGY STAR program or Federal Energy Management Program (FEMP)--
  - (i) Agencies shall purchase ENERGY STAR or FEMP-designated products; and
  - (ii) For products that consume power in a standby mode and are listed on FEMP's Low Standby Power Devices product listing, agencies shall--
    - (A) Purchase items which meet FEMP's standby power wattage recommendation or document the reason for not purchasing such items; or
    - (B) If FEMP has listed a product without a corresponding wattage recommendation, purchase items which use no more than one watt in their standby power consuming mode. When it is impracticable to meet the one wattage requirement, agencies shall purchase items with the lowest standby wattage practicable; and



- FAR 23.203 Energy-efficient products (continued)
- ( 2) When contracting for services or construction that will include the provision of energy-consuming products, agencies shall specify products that comply with the applicable requirements in paragraph (a) (1) of this section.





## **FAR 23.206** Contract Clause

- ...insert the clause at 52.223.15, Energy Efficiency in Energy-Consuming Products, in solicitations and contracts when energy-consuming products listed in the ENERGY STAR program or FEMP will be--
- (a) Delivered;
- (b) Acquired by the contractor for use in performing services at a Federally-controlled facility,
- (c) Furnished by the contractor for use by the Government; or
- (d) Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance.



## **FAR 23.703** Policy. Agencies must--

- (a) implement cost-effective contracting preference programs promoting energy-efficiency, water conservation, and the acquisition of environmentally preferable products and services; and



# What's in the FAR?

- **FAR 52.223-15** Energy Efficiency in Energy-Consuming Products
- The contractor shall insure that energy-consuming products are energy-efficient products (i.e. ENERGY STAR products or FEMP-designated products) at the time of award for products that are--
  - Delivered;
  - Acquired by the contractor for use in performing services at a Federally-controlled facility
  - Furnished by the contractor for use by the Government; or
  - Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance.

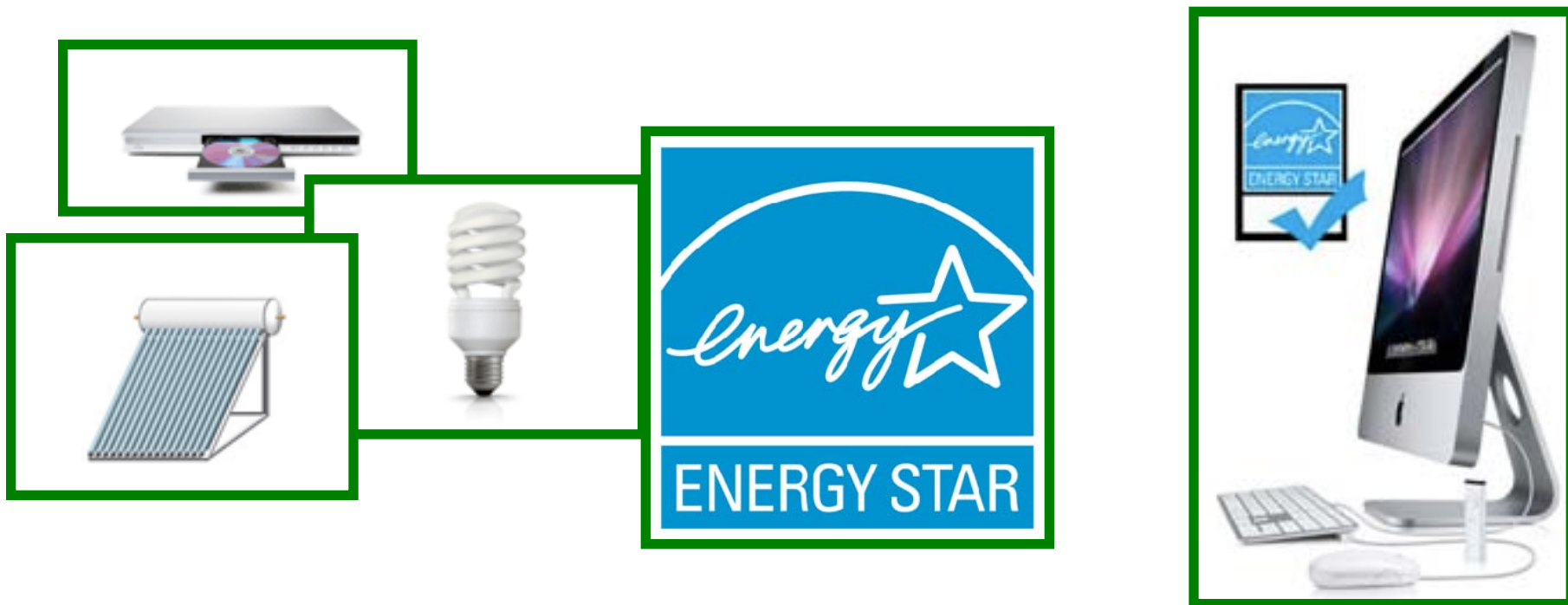


# Energy-Efficient Products: ENERGY STAR

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- Government backed symbol for energy efficiency
- Available from Federal and commercial sources
- Label on product, packaging, or in manual



# Energy-Efficient Products: ENERGY STAR



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- Products can earn the ENERGY STAR label by meeting the energy efficiency requirements set forth in ENERGY STAR product specifications.
- There are seven categories of ENERGY STAR products for government agencies: commercial appliances, building products, commercial food service equipment, computers and electronics, heating and cooling, lighting and fans, and plumbing.



**GIVE IT A REST.** Use the ENERGY STAR [power management](#) settings on your computer and monitor so they go into save mode when not in use. Also use a power strip as a central "turn off" point to completely disconnect equipment from the power supply.



**LIGHT UP YOUR WORKLIFE.** Replace the light bulb in your desk lamp with an [ENERGY STAR qualified bulb](#), which will last up to 10 times longer and use 75 percent less energy. Turn off the lights when you leave, especially at the end of the day.

- Product example:

## ENERGY STAR gas condensing water heaters

### About ENERGY STAR Water Heater, Gas Condensing

Overview

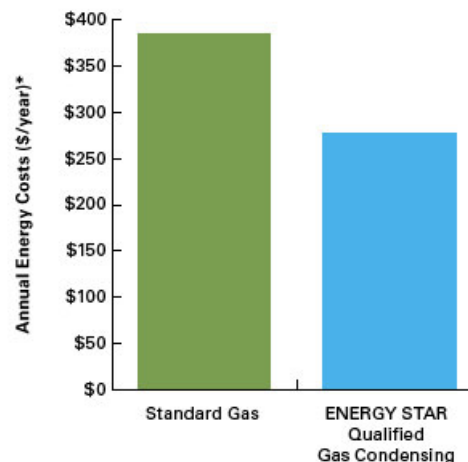
Specifications

Buying Guidance

FAQs

ENERGY STAR qualified gas condensing water heaters are blazing a new trail in water heating technology. Qualified models due out mid-2010 will utilize an enhanced design to cut water heating expenses by about 30%, while also delivering superior performance. If you have time to plan ahead, consider this exciting new technology for your next water heater purchase.

### Cut Your Water Heater Energy Costs by 30%



\*Based on average household of 2.6 occupants, U.S. Census, 2006.



# Energy-Efficient Products: FEMP-Designated

- FEMP identifies required purchasing specifications and performance requirements for a category of products, which is typically an energy consumption level within the upper 25% of the product category.





# Energy-Efficient Products: FEMP-Designated

- Major Categories of FEMP-designated Products:
- Lighting
- Commercial and Industrial Equipment
- Food Service Equipment
- Office Equipment
- Appliances
- Residential Equipment
- Plumbing
- Construction products
- Low standby power



# Energy-Efficient Products: FEMP-Designated

- Product example: Refrigerator/freezer
- The FEMP provides efficiency recommendations for each product type. Procurement officers can then compare specifications for available models on the market to the FEMP recommendations. (FEMP does not recommend specific product models.)

| Efficiency Recommendation <sup>a</sup> |                               |  |                                  |
|--|-------------------------------|--|----------------------------------|
| Product Type                           | Recommended <sup>b</sup>      | Recommended <sup>c</sup><br>(24.0 cu. ft.) | Best Available<br>(24.0 cu. ft.) |
| Refrigerator                           | 0.10V + 2.04 kWh/day or less  | 4.44 kWh/day                               | 3.97 kWh/day                     |
| Refrigerator-Freezer                   | 0.27AV - 0.71 kWh/day or less | 7.81 kWh/day                               | 5.86 kWh/day                     |
| Freezer                                | 0.40V + 1.38 kWh/day or less  | 10.98 kWh/day                              | 6.79 kWh/day                     |
| Ice Cream Freezer                      | 0.39V + 0.82 kWh/day or less  | 10.18 kWh/day                              | n/a <sup>d</sup>                 |

| Cost-Effectiveness Example<br>(Reach-in, Solid Door Refrigerator, 24.0 cubic feet) |            |                   |                |
|--|------------|-------------------|----------------|
| Performance  | Base Model | Recommended Level | Best Available |
| Daily Energy Use   | 5.2 kWh    | 4.4 kWh           | 3.1 kWh        |
| Annual Energy Use  | 1,891 kWh  | 1,621 kWh         | 1,132 kWh      |
| Annual Energy Cost   | \$113      | \$97              | \$70           |
| Lifetime Energy Cost <sup>d</sup>  | \$890      | \$760             | \$530          |
| Lifetime Energy Cost Savings   | —          | <b>\$130</b>      | <b>\$360</b>   |

# Energy-Efficient Products: Standby Power

- Standby power is the power consumed by a product when it is in the lowest power consuming mode. This typically occurs when the product is switched off or not performing its primary purpose.
- The FEMP Standby Power Data Center contains searchable lists of product specifications in over 20 product categories. Standby data for these products have been submitted to FEMP either by ENERGY STAR or directly from manufacturers.
- Major product types in the Standby Power Data Center include: cell phones, computer monitors, copiers, desktop computers, laptop computers, microwaves, printers, room air conditioners, scanners, televisions.



# Energy-Efficient Products: Standby Power


- To use the FEMP Standby Power Data Center, enter a product type such as “printer” or enter company name, brand name, model number, or other features in the “search text.”
- The display will show manufacturer makes and specific models of desktop computers in order of “declared standby power.” FEMP’s recommended standby power will also display.

### Search the Standby Power Data Center

Please enter the search term below to search for Company Name, Brand Name, Model number, Product Type or Other Features.

Search Text:

Product Type:



### Search Results

Below are 258 product results based on your search criteria. Click on 'Export to Excel' to save the results to your computer.

| FEMP Recommended Standby Power | Declared Standby Power | Product Type     | Company Name - Brand Name | Model Number | Other Features     |
|--------------------------------|------------------------|------------------|---------------------------|--------------|--------------------|
| 2 W                            | 0 to 1 W               | Desktop computer | IBM- ThinkCentre A30      | 8199-xxx     |                    |
| 2 W                            | 0 to 1 W               | Desktop computer | IBM- ThinkCentre A30      | 8316-xxx     | P4, w/ WOL Enabled |
| 2 W                            | 0 to 1 W               | Desktop computer | IBM- ThinkCentre A30      | 8316-xxx     |                    |
| 2 W                            | 0 to 1 W               | Desktop computer | IBM- ThinkCentre A30      | 8434-xxx     | P4, w/ WOL Enabled |
| 2 W                            | 0 to 1 W               | Desktop computer | IBM- ThinkCentre A30      | 8434-xxx     |                    |

# Energy-Efficient Products: Standby Power

- Standby Power Data Center:

[www1.eere.energy.gov/femp/technologies/standby\\_power.aspx](http://www1.eere.energy.gov/femp/technologies/standby_power.aspx)

- How to Buy Products with Low Standby Power:

[www1.eere.energy.gov/femp/technologies/buying\\_low\\_standby.html](http://www1.eere.energy.gov/femp/technologies/buying_low_standby.html)

- Some Products with Low Standby Power Capability:



computers



cell phones



printers

Sandia's energy management team installed an ENERGY STAR roof and integrated a cutting-edge photovoltaic system into the roof structure.

- The roof not only insulates, but generates 3.2 kilowatts of power for the building--enough power for about 1-3 homes in Albuquerque, New Mexico.
- This innovation not only helps Sandia National Laboratory, but demonstrates that installing these roofs in 50% of Sandia, New Mexico's buildings could potentially reduce power usage by 56 Gigawatt-hours per year or 35% of their total annual energy consumption.





# Success Stories

## Naval Station Pearl Harbor

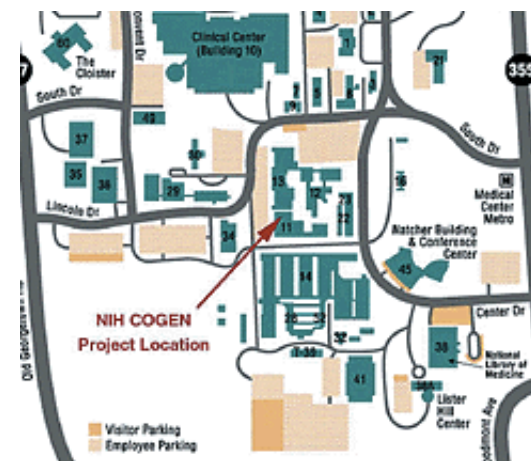
- Developed Hawaii Navy Energy Vision 2020--a strategic view of the Pearl Harbor region's energy requirements.
- Included procurement of an increased amount of ENERGY STAR lighting products and equipment.
- Replaced more than 10,000 incandescent light bulbs with compact fluorescent lamps.



- Conducted a rigorous energy awareness and training program.



- Used facility energy audits, highly efficient systems, sustainable building design, and ENERGY STAR standards and efficiency goals to implement energy conservation.
- HHS Bethesda Campus began receiving its power from a new 23 megawatt cogeneration unit with an efficiency rating of 85% that will save \$3.6 million per year.
- Will be eliminating greenhouse gases equivalent to removing 11,400 cars from the road each year.
- Developed outreach tools including seminars, newsletters, electronic mail notices, website, and after-hours energy audits to notify individual employees of their energy saving performance.



## ENERGY STAR and FEMP:

- Model contract language with ENERGY STAR and FEMP-designated products--construction and information technology
- Performance requirements
- Energy cost calculators
- Standard PowerPoint presentation template and training
- Additional information

## Where to buy energy-efficient products:

- GSA Advantage!
- DoD Email
- Commercial sources



- Increase Federal outreach and education
- Increase compliance and reporting activities
- Increase partnerships with other government agencies
- Enhance web site features
- Promote business opportunities
- Pilot projects
- Awards



## ENERGY STAR Program

888-STAR-YES (888-782-7937)

<http://www.energystar.gov/products>

## Federal Energy Management Program

1-877-EERE-INF (1-877-337-3463)

<http://www.eere.energy.gov/femp/procurement>

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